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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte SRIRAM DEVANATHAN, JEFFREY ALLEN MOORE, JOSEPH
PETER STEFANIAK, and LONNIE DALE SULGROVE

Appeal 2009-006545
Application 10/716,286¹
Technology Center 2100

Before JOSPEH L. DIXON, JEAN R. HOMERE, and JAMES R. HUGHES,
Administrative Patent Judges.

HOMERE, *Administrative Patent Judge.*

DECISION ON APPEAL²

¹ Filed on November 18, 2003. The real party in interest is Unisys Corp. (Br. 3.)

² The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, or for filing a request for rehearing, as recited in 37 C.F.R. § 41.52, begins to run from the “MAIL DATE” (paper delivery mode) or the “NOTIFICATION DATE” (electronic delivery mode) shown on the PTOL-90A cover letter attached to this decision.

I. STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134(a) (2002) from the Examiner's final rejection of claims 1 through 38. (Br. 3.) We have jurisdiction under 35 U.S.C. § 6(b) (2008).

We affirm-in-part.

Appellants' Invention

Appellants invented a method, machine-accessible storage medium, and system for designing a database by converting logical aspects of common warehouse model (hereinafter "CWM") representations to corresponding elements in a relational database. (Spec. 1, ll. 15-19.)

Illustrative Claim

Independent claim 1 further illustrates the invention as follows:

1. A method comprising:

converting logical aspects of a common warehouse model (CWM) to corresponding design items for a relational database by processing in a hierarchical manner the logical aspects and creating the corresponding design items, the logical aspects comprising entity-relationship (ER) libraries, the ER libraries comprising ER models, the corresponding design items comprising design libraries, the design libraries comprising design models.

Prior Art Relied Upon

The Examiner relies on the following prior art as evidence of unpatentability:

Toby J. Teorey et al., A Logical Design Methodology for Relational Databases Using the Extended Entity—Relationship Model: Computing Surveys (June 1986) (M.S. thesis, University of Michigan) (on file with Computer and Information Systems, Graduate School of Business Administration) (hereinafter "Teorey").

Kumpon Farpinyo & Twittie Senivongse, *Designing and Creating Relational Schemas with a CWM-Based Tool* (2002) (on file with the Department of Computer Engineering, Chulalongkorn University) (hereinafter “Farpinyo”).

*Rejections on Appeal*³

The Examiner rejects the claims on appeal as follows:

Claims 15 and 27 stand rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter.

Claims 1, 13, 15, and 27 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Teorey.

Claims 1, 13, 15, and 27 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Farpinyo.

Claims 2 through 12, 14, 16 through 26, and 28 through 38 stand rejected under § 103(a) as being unpatentable over the combination of Teorey and Farpinyo.

Appellants’ Contentions

1. Appellants contend that independent claim 15 is directed to statutory subject matter because it is limited to a machine-accessible *storage* medium. (Br. 10-11) (emphasis added.) Appellants also argue that the Examiner improperly rejected independent claim 15 under 35 U.S.C. § 101 because the Examiner fails to respond to the substance of Appellants’ amendment. (*Id.* at 11.)

2. Appellants contend that independent claim 27 clearly recites a processor, a memory coupled to the processor, and memory containing

³ The Examiner withdrew the rejection of claims 1, 13, 15, and 27 under 35 U.S.C. § 102(e) as being anticipated by Shinjo. (Ans. 3.) The Examiner appears to have mistakenly repeated the text of this rejection in the Answer. (Ans. 8-9.)

program code. (*Id.* at 11-12.) Therefore, Appellants argue that independent claim 27 is directed to statutory subject matter because they fail to see how the Examiner could construe the claim as a transmission medium, or a transitory data signal. (*Id.* at 12.) Appellants also allege that the Examiner improperly rejected independent claim 27 under 35 U.S.C. § 101 because the Examiner fails to respond to the substance of the arguments previously presented by Appellants. (*Id.*)

3. Appellants generally contend that the disclosure in Teorey's Abstract fails to teach at least one of the elements of independent claim 1. (Br. 13-14.) Appellants also argue that Teorey cannot anticipate independent claim 1 because CWM was introduced ten years before Teorey's publishing date of 1986. (*Id.*)

4. Appellants contend that since Farpinyo's ER2CWM tool cannot display ER diagrams created from any CWM document, Farpinyo does not teach using the logical information part of CWM. (*Id.* at 15-16.) Appellants also argue that Farpinyo cannot anticipate independent claim 1 because Farpinyo only discloses CWM Relational, or the physical aspects of CWM, not the logical aspects of CWM. (*Id.* at 17.) Therefore, Appellants allege that Farpinyo does not inherently or explicitly disclose any of the elements recited in independent claim 1. (*Id.*)

Moreover, Appellants generally contend that both Farpinyo's Abstract and Introduction sections do not teach any of the elements recited in independent claim 1. (*Id.* at 18.) Further, Appellants allege that the Examiner failed to respond to the arguments previously presented by Appellants and, therefore, the Examiner's lack of response amounts to an improper Final Rejection. (*Id.* at 18-19.)

Examiner's Findings and Conclusions

1. The Examiner finds that independent claim 15 is directed to non-statutory subject matter because Appellants' Specification indicates that the claimed "machine-accessible storage medium" encompasses a transitory, computer data signal. (Ans. 4-5.)⁴ The Examiner also finds that Appellants' Specification should be objected to as failing to provide proper antecedent basis for the claimed "a machine-accessible *storage* medium." (*Id.* at 24) (emphasis added.)

2. The Examiner finds that independent claim 27 is directed to non-statutory subject matter because Appellants' Specification indicates that the claimed "program code" encompasses a transitory, computer data signal. (*Id.* at 5-6.) The Examiner also maintains that Appellants' arguments pertaining to the 35 U.S.C. § 101 rejection of independent claim 27 were addressed in the Final Rejection entered January 11, 2007. (*Id.* at 24.)

3. The Examiner finds that Teorey's disclosure of accomplishing relational database design with a variety of approaches, including top-down, bottom-up, and combined methodologies, encompasses the CWM. (*Id.* at 25.) The Examiner also finds that the Microsoft Computer Dictionary, 5th Ed., defines the CWM as an instance of a data warehouse model. (*Id.*) Further, the examiner finds that Appellant's Specification states that CWM stems from Unified Modeling Language, which is object-orienting programming. (*Id.*) Therefore, the Examiner finds that Teorey's disclosure can be broadly, but reasonably construed to teach independent claim 1. (*Id.*)

⁴ All references to the Examiner Answer are to the Miscellaneous Communication/Supplemental Answer filed on June 16, 2008, which replaced the prior Answer filed on November 27, 2007.

Moreover, the Examiner finds that Teorey's disclosure of entities, attributes, and relationships, in conjunction with ER Modeling and Extended Constructs for a relational model, teaches independent claim 1. (*Id.* at 25-26.) The Examiner also finds that the disclosure in Teorey's Abstract teaches the disputed claim. (*Id.* at 26.)

4. The Examiner finds that both Farpinyo's Abstract and Introduction sections, which includes utilizing a tool to design a database with ER diagrams and creating database schemas, teaches independent claim 1. (*Id.* at 26-28.)

II. ISSUES

1. Have Appellants shown that the Examiner erred in finding that independent claim 15 is directed to non-statutory subject matter? In particular, the issue turns on whether the claimed "machine-accessible storage medium" can be properly construed as a manufacture.

2. Have Appellants shown that the Examiner erred in finding that independent claim 27 is directed to non-statutory subject matter? In particular, the issue turns on whether the claimed "system" and corresponding "processor" and "memory" can be properly construed as a machine.

3. Have Appellants shown that the Examiner erred in finding that Teorey anticipates independent claim 1? In particular, the issue turns on whether Appellants have persuasively rebutted the Examiner's rejection.

4. Have Appellants shown that the Examiner erred in finding that Farpinyo anticipates independent claim 1? In particular, the issue turns on whether Farpinyo teaches "converting logical aspects of a common

warehouse model (CWM) to corresponding design items for a relational database by processing in a hierarchical manner the logical aspects and creating the corresponding design items, the logical aspects comprising entity-relationship (ER) libraries, the ER libraries comprising ER models, the corresponding design items comprising design libraries, the design libraries comprising design models,” as recited in independent claim 1.

III. FINDINGS OF FACT

The following Findings of Fact (hereinafter “FF”) are shown by a preponderance of the evidence.

Appellants’ Specification

FF 1. Appellants’ Specification states the following:

[t]he program or code segments can be stored in a processor or machine accessible medium or transmitted by a computer data signal embodied in a carrier wave, or a signal modulated by a carrier, over a transmission medium.

(Spec. 10, ll. 20-32.)

Farpinyo

FF 2. Farpinyo discloses a CWM-based tool, called ER2CWM, that creates CWM relational database schemas from physical data models represented by ER diagrams. (Abst.) In particular, Farpinyo discloses that the tool supports the creation of ER diagrams, the transformation of ER diagrams to CWM format, and the creation of database schemas for relational database management systems (hereinafter “DBMS”). (*Id.*)

IV. ANALYSIS

35 U.S.C. § 101 Rejection

Claim 15

Independent claim 15 recites, in relevant part, “[a]n article of manufacture comprising: a machine-accessible *storage* medium . . .”. (Emphasis added.)

As detailed in the Findings of Fact above, Appellants’ Specification indicates that both a processor and a machine-accessible medium are capable of storing program or code segments. (FF 1.) Appellants’ Specification also indicates that a computer data signal embodied in a carrier wave, or a signal modulated by a carrier wave over a transmission medium, is capable of transmitting such program or code segments. (*Id.*) We find that the claimed “machine-accessible storage medium” is limited to the specific embodiment wherein a storage medium is capable of storing program or code segments, which is separate and distinct from the carrier wave embodiment. Therefore, we do not agree with the Examiner that the claimed “machine-accessible storage medium” encompasses the carrier wave embodiment. We are satisfied that the recited limitation is directed to a non-transitory and tangible medium, which constitutes a manufacture.⁵ Accordingly, we find that independent claim 15 is directed to one of the four statutory classes of subject matter under 35 U.S.C. § 101. It follows that Appellants have shown

⁵ A storage medium constitutes the statutory class of a manufacture since it is a product of “*articles* for use from raw or prepared materials by giving to these materials new forms, qualities, properties, or combinations, whether by hand-labor or by machinery.” See *In re Nuijten*, 500 F.3d 1346, 1356 (Fed. Cir. 2007) (citations and internal quotation marks omitted).

that the Examiner erred in finding that independent claim 15 is directed to non-statutory subject matter.

Claim 27

Independent claim 27 recites, in relevant part, “[a] system comprising: a processor; and . . . memory containing program code that, when executed by the processor, causes the processor to perform the operation of[] . . .”.

We find that the claimed “system” entails the use of “a processor” and “memory” programmed or configured to perform the operation recited in independent claim 27. Therefore, we find that the claimed “system” is a machine,⁶ which is one of the four statutory classes of subject matter under 35 U.S.C. § 101. It follows that Appellants have shown that the Examiner erred in finding that independent claim 27 is directed to non-statutory subject matter.

35 U.S.C. § 102(b) Rejection--Teorey

Claim 1

We are not persuaded by Appellants’ arguments that: 1) Teorey fails to teach at least one of the elements of independent claim 1; or 2) Teorey does not anticipate independent claim 1 because CWM was introduced ten years before Teorey’s publishing date of 1986. (Br. 13-14.) We note that since Appellants failed to point to any limitation within independent claim 1 that was not anticipated by Teorey’s disclosure, Appellants’ arguments have

⁶ “[A] machine is a ‘concrete thing, consisting of parts, or of certain devices and combination of devices.’ This ‘includes every mechanical device or combination of mechanical powers and devices to perform some function and produce a certain effect or result.’” *In re Ferguson*, 558 F.3d 1359, 1364 (quoting *In re Nuijten*, 500 F.3d 1346, 1355 (Fed. Cir. 2007), *reh’g denied en banc*, 515 F.3d 1361 (Fed. Cir. 2008), *cert. denied*, 129 S. Ct. 70 (2008)).

no basis in the claim. Further, Appellants are reminded that merely reiterating what a claim recites or making a general allegation of patentability is not a separate patentability argument. *See Ex parte Belinne*, No. 2009-004693, *slip op.* at 7-8 (BPAI Aug. 10, 2009) (informative); *see also* 37 C.F.R. § 41.37(c)(1)(vii). Additionally, we note that Appellants did not file a Reply Brief in response to the Examiner's Answer. Accordingly, since Appellants failed to provide any substantive arguments pertaining to the limitations explicitly recited in independent claim 1, Appellants have failed to persuasively rebut the Examiner's rejection. It follows that Appellants have not shown that the Examiner erred in finding that Teorey anticipates independent claim 1.

Claims 13, 15, and 27

Appellants do not provide separate arguments for patentability with respect to independent claims 13, 15, and 17. Therefore, we select independent claim 1 as representative of the cited claims. Consequently, Appellants have not shown error in the Examiner's rejection of independent claims 13, 15, and 27 for the reasons set forth in our discussion of independent claim 1 above. *See* 37 C.F.R. § 41.37(c)(1)(vii).

35 U.S.C. § 102(b) Rejection—Farpinyo

Claim 1

Independent claim 1 recites, in relevant part:

converting logical aspects of a common warehouse model (CWM) to corresponding design items for a relational database by processing in a hierarchical manner the logical aspects and creating the corresponding design items, the logical aspects

comprising entity-relationship (ER) libraries, the ER libraries comprising ER models, the corresponding design items comprising design libraries, the design libraries comprising design models.

As detailed in the Findings of Fact section above, Farpinyo discloses a CWM-based tool (i.e., ER2CWM) that creates CWM relational database schemas from physical data models represented by ER diagrams. (FF 3.) In particular, Farpinyo discloses that the tool is capable of creating ER diagrams, transforming ER diagrams to CWM format, and creating database schemas for a DBMS. (*Id.*) At best, we find that Farpinyo's disclosure teaches a CWM-based tool that utilizes the physical aspects of a CWM to design and create database schemas for a DBMS. However, we find that Farpinyo fails to teach or suggest that Farpinyo's CWM-based tool is capable of converting the logical aspects of a CWM to corresponding design items for a relational database, let alone hierarchically converting ER libraries to design libraries and ER models to design models. While Farpinyo discloses utilizing the physical aspects of a CWM to design and create database schemas for a DBMS, it is silent in regards to utilizing the logical aspects of a CWM. Absent a showing that Farpinyo's CWM-based tool converts the logical aspects of a CWM to corresponding design items for a relational database by hierarchically converting ER libraries to design libraries and ER models to design models, we find that the Examiner improperly relied upon Farpinyo's disclosure to teach the disputed limitation.

Since Appellants have shown at least one error in the rejection of independent claim 1, we need not reach the merits of Appellants' other

arguments. It follows that Appellants have shown that the Examiner erred in finding that Farpinyo anticipates independent claim 1.

Claims 13, 15, and 27

Since independent claims 13, 15, and 27 also incorporate the limitations discussed above, we find that Appellants have also shown error in the Examiner's rejection of these claims for the reasons set forth in our discussion of independent claim 1 above.

*35 U.S.C. § 103(a) Rejection—Combination of Teorey and Farpinyo
Claims 2 through 12, 14, 16 through 26, and 28 through 38*

We note that Teorey does not remedy the noted deficiencies in Farpinyo. Therefore, since dependent claims 2 through 12, 14, 16 through 26, and 28 through 38 also incorporate the noted deficiencies in Farpinyo, we find that Appellants have also shown error in the Examiner's rejection of these claims for the reasons set forth in our discussion of independent claim 1 above.

V. CONCLUSIONS OF LAW

1. Appellants have shown that the Examiner erred in rejecting claim 15 as being directed to non-statutory subject matter under 35 U.S.C. §101.
2. Appellants have shown that the Examiner erred in rejecting claim 27 as being directed to non-statutory subject matter under 35 U.S.C. §101.
3. Appellants have not shown that the Examiner erred in rejecting claims 1, 13, 15, and 27 as being anticipated by Teorey under 35 U.S.C. § 102(b).

4. Appellants have shown that the Examiner erred in rejecting claims 1, 13, 15, and 27 as being anticipated by Farpinyo under 35 U.S.C. § 102(b).

5. Appellants have shown that the Examiner erred in rejecting claims 2 through 12, 14, 16 through 26, and 28 through 38 as being unpatentable under 35 U.S.C. § 103(a).

VI. DECISION

1. We reverse the Examiner's decision to reject claim 15 as being directed to non-statutory subject matter under 35 U.S.C. §101.

2. We reverse the Examiner's decision to reject claim 27 as being directed to non-statutory subject matter under 35 U.S.C. §101.

3. We affirm the Examiner's decision to reject claims 1, 13, 15, and 27 as being anticipated by Teorey under 35 U.S.C. § 102(b).

4. We reverse the Examiner's decision to reject claims 1, 13, 15, and 27 as being anticipated by Farpinyo under 35 U.S.C. § 102(b).

5. We reverse the Examiner's decision to reject claims 2 through 12, 14, 16 through 26, and 28 through 38 as being unpatentable under 35 U.S.C. § 103(a).

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED-IN-PART

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